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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/728,909	12/01/2000	John Lightfoot	50277-1545	2375

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EXAMINER

SANTOS, PATRICK J D

ART UNIT	PAPER NUMBER
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2171

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/728,909

Applicant(s)

LIGHTFOOT ET AL.

Examiner

Patrick J Santos

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,878,415 issued to Olds (hereafter Olds '415) in view of the publication "Database Systems: Principles, Design, & Implementation" by Ricardo, published by MacMillan, 1990 (hereafter Ricardo '90).

Claim 1:

Regarding Claim 1, Olds '415 discloses a method for providing users associated with an organization access to documents that belong to a set of documents, comprising the steps of:

- storing hierarchy data (Olds '415: col. 7, lns. 59-64);
- establishing a first mapping between the users and the set of nodes to the hierarchy data (Olds '415: col. 8, lns. 16-21);
- establishing a second mapping between the documents in said set of documents and the set of nodes (Olds '415: col. 8, lns. 11-14); and

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- determining which documents in said set of documents a user is allowed to access based on the hierarchy data, the first mapping and the second mapping.

Olds '415 does not explicitly disclose that the hierarchy data is stored in a logical hierarchical data model:

- that identifies:
 - o a set of nodes that correspond to ORG-UNITS associated with the organization;
 - and
 - o hierarchical relationships between said nodes that reflect hierarchical relationships between the ORG-UNITS that correspond to said nodes; and
- further to base the first mapping on the ORG-UNITS to which the users belong.

Ricardo '90 discloses the IMS (TM) hierarchical database as distributed by International Business Machines (TM) and directives on designing hierarchical data models. Specifically, Ricardo '90 discloses logical hierarchical data model directives:

- that identifies:
 - o a set of nodes that correspond to ORG-UNITS associated with the organization (Ricardo '90: pp. 356-361); and
 - o hierarchical relationships between said nodes that reflect hierarchical relationships between the ORG-UNITS that correspond to said nodes (Ricardo '90: pp. 356-361); and
- further to base the first mapping on the ORG-UNITS to which the users belong (Ricardo '90: pp. 356-361).

It would have been obvious to a person having ordinary skill in the art to apply the hierarchical data model directives of Ricardo '90 to the Olds '415 invention which generates a hierarchical mapping of ORG-UNITS. The motivation to accomplish said application is as follows:

- Hierarchical databases are well-known in the art and are chosen for data models, such as the Applicant's notion of ORG-UNITS, that themselves are hierarchical.
- In fact, the design of a data model of a hierarchical database is specifically driven by the consideration that, "the root node dominates all others, we should choose the structure that matches the most frequently asked or important questions" (Ricardo '90: p. 361).
- Applicant observes in the prior art that, "Frequently, the position that one holds in a company dictates the documents to that the individual is allowed to access" (Specification (Applicant Admitted Prior Art): p. 1, Ins. 14-16),
- The development of a hierarchical data model that matches frequent document access control for an organization matches the Applicant's notion of ORG-UNITS; a set of nodes that correspond to ORG-UNITS associated with the organization); and the mapping of hierarchical relationships between said nodes that reflect hierarchical relationships between the ORG-UNITS that correspond to said nodes.

In short, a person having ordinary skill in the art, faced with the problem of mapping document access to a user's position in the company (Specification (Applicant Admitted Prior Art): p. 1, Ins. 14-16), to the hierarchical database of the Olds '415 invention (Olds '415: col. 7, Ins. 59-64), using the hierarchical data model directives of Ricardo '90 (Ricardo '90: pp. 356-361) is therefore motivated to modify the Olds '415 invention to create a logical hierarchical data model:

- that identifies:
 - o a set of nodes that correspond to ORG-UNITS associated with the organization;
and
 - o hierarchical relationships between said nodes that reflect hierarchical relationships between the ORG-UNITS that correspond to said nodes; and
- further to base the first mapping on the ORG-UNITS to which the users belong.

Claims 2 and 4:

Regarding Claims 2 and 4, Olds '415 and Ricardo '90 in combination disclose all the limitations of Claim 1 (supra). Further note that Olds '415 and Ricardo '90 in combination also disclose:

- (Claim 2) wherein the step of determining includes determining that the user may access only a subset of documents in said set of documents, wherein said subset includes only documents that either:
 - o map to a node to which the user maps (Olds '415: col. 4, lns. 33-54); or
 - o map to a node that, according to said hierarchical relationships, resides below a node to which the user maps (Olds '415: col. 4, lns. 33-54).
- (Claim 4) further comprising the step of automatically synchronizing the hierarchy data based on a new set of hierarchy information (Olds '415: col. 7, lns. 21-44).

Claim 3:

Regarding Claim 3, Olds '415 and Ricardo '90 in combination disclose all the limitations of Claim 2 (supra). Further note that Olds '415 and Ricardo '90 in combination also disclose:

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- further comprising the step of allowing the user to access the subset of documents without conveying to said user any information about documents in said set of documents that are not in said subset (Olds '415: col. 4, lns. 33-54).

Claims 13-16:

Examiner notes that Claims 13-16 are the computer-readable medium carrying instructions embodiment of Claims 1-4 respectively, and are rejected on the same basis.

3. Claims 5, 7-9 and 17, 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olds '415 and Ricardo '90 in view of U.S. Patent No. 5,684,990 issued to Boothby (hereafter Boothby '990).

Claim 5:

Regarding Claim 5, Olds '415 and Ricardo '90 in combination disclose all the limitations of Claim 4 (supra). However, Olds '415 and Ricardo '90 in combination do not explicitly disclose:

- wherein the step of automatically synchronizing includes the steps of inserting nodes that appear in the new set of hierarchy information but not in the hierarchy data into the hierarchy data; moving nodes that have new positions in the new set of hierarchy information to new positions in the hierarchy data; and deleting nodes that appear in the hierarchy data but not in the new set of hierarchy information.

Boothby '990 discloses a means of synchronizing disparate databases. Specifically, Boothby '990 discloses:

- wherein the step of automatically synchronizing includes the steps of inserting nodes that appear in the new set of hierarchy information but not in the hierarchy data into the hierarchy data; moving nodes that have new positions in the new set of hierarchy information to new positions in the hierarchy data; and deleting nodes that appear in the hierarchy data but not in the new set of hierarchy information (Boothby '990: col. 5, ln. 58 to col. 6, ln. 39; Fig. 3).

It would have been obvious to a person having ordinary skill in the art to apply the synchronization means of Boothby '990 to the Olds '415 and Ricardo '90 combination. The motivation to combine is suggested by Boothby '990 which discloses the advantages of the Boothby '990 particular species of database synchronization, including the ability to automatically synchronize without user intervention or oversimplifying trump rules (Boothby '990: col. 1, lns. 7-24; col. 2, ln. 63 to col. 3, ln. 5).

Claim 7:

Regarding Claim 7, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 5 (supra). Further note that Olds '415, Ricardo '90, and Boothby '990 in combination also disclose:

- (Claim 6) wherein the step of inserting is performed before the step of moving, and the step of moving is performed before the step of deleting (Boothby '990:).
- wherein the step of inserting involves traversing the hierarchy represented by the new hierarchy information (Ricardo '90: pp. 357-358, note discussion regarding "preorder traversal"; pp. 379-380, note discussion regarding the ISRT (insert) command).

Claim 8:

Regarding Claim 8, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 7 (supra). Further note that Olds '415, Ricardo '90, and Boothby '990 in combination also disclose:

- wherein the step of traversing is performed using a transversal technique that ensures parent nodes are processed before their children nodes (Ricardo '90: pp. 357-358, note discussion regarding "preorder traversal").

Claim 9:

Regarding Claim 9, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 8 (supra). Further note that Olds '415, Ricardo '90, and Boothby '990 in combination also disclose:

- wherein the step of traversing is performed using a left-most tree transversal (Ricardo '90: pp. 357-358, note discussion regarding "preorder traversal").

Claims 17-21:

Examiner notes that Claims 17-21 are the computer-readable medium carrying instructions embodiment of Claims 5-9 respectively, and are rejected on the same basis.

4. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olds '415, Ricardo '90 and Boothby '990, and in view of information held in Official Notice.

Claim 6:

Regarding Claim 6, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 5 (supra). However, Olds '415, Ricardo '90, and Boothby '990 in combination do not explicitly disclose:

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- wherein the step of inserting is performed before the step of moving, and the step of moving is performed before the step of deleting.

Examiner takes official notice it is well known in the art to set an order of operations is to be set on operations to guarantee consistency. In particular, it is well known in the art to set the order of operations such that moving is between the insert and delete operations.

It would have been obvious to a person having ordinary skill in the art to apply the order of operations to the Olds '415, Ricardo '90, and Boothby '990 combination. The motivation to combine is well known as in a synchronization operation as in Olds '415, Ricardo '90, and Boothby '990, setting the order of operations such that moving is between the insert and delete operations, guarantees the user the opportunity not to delete the recently inserted data.

Claim 18:

Examiner notes that Claim 18 is the computer-readable medium carrying instructions embodiment of Claim 6 respectively, and is rejected on the same basis.

5. Claims 10-12 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Olds '415, Ricardo '90, and Boothby '990, in view of U.S. Patent No. 5,802,518 issued to Karaev et al. (hereafter Karaev '518).

Claim 10:

Regarding Claim 10, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 1 (supra). However, Olds '415, Ricardo '90, and Boothby '990 in combination do not explicitly disclose:

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- wherein the step of determining which documents said user is allowed to access is performed in response to a request received by a web server over a network from a browser on a client being used by said user.

Karaev '518 discloses:

- wherein the step of determining which documents said user is allowed to access is performed in response to a request received by a web server over a network from a browser on a client being used by said user (Karaev '518: col. 3, lns. 21-57).

It would have been obvious to a person having ordinary skill in the art to apply the document repository of Karaev '815 to the Olds '415, Ricardo '90, and Boothby '990 combination. The motivation to accomplish said combination is suggested by Karaev '815 which discloses the general benefits of an electronic document repository as opposed to a physical paper document repository (Karaev '815: col. 1, lns. 21-32).

Claim 11:

Regarding Claim 12, Olds '415, Ricardo '90, and Boothby '990 in combination disclose all the limitations of Claim 1 (supra). However, Olds '415, Ricardo '90, and Boothby '990 in combination do not explicitly disclose:

- further comprising the steps of:
 - o storing said set of documents in a repository accessible to said server; and
 - o providing from said repository to said user over said network one or more documents that said user is allowed to access.

Karaev '518 discloses:

- further comprising the steps of:

- storing said set of documents in a repository accessible to said server (Karaev '518: col. 3, lns. 22-30); and
- providing from said repository to said user over said network one or more documents that said user is allowed to access (Karaev '518: col. 3, lns. 58 to col. 4, ln. 5).

It would have been obvious to a person having ordinary skill in the art to apply the document repository of Karaev '815 to the Olds '415 and Ricardo '90 combination. The motivation to accomplish said combination is on the same basis as Claim 10 (supra).

Claim 12:

Regarding Claim 12, Olds '415, Ricardo '90, Boothby '990, and Karaev '815 in combination disclose all the limitations of Claim 11 (supra). Further note that Olds '415, Ricardo '90, Boothby '990, and Karaev '815 in combination disclose:

- further comprising the step of implementing said repository in a relational database system (Karaev '815: col. 6, lns. 57-61).

Claims 22-24:

Examiner notes that Claims 22-24 are the computer-readable medium carrying instructions embodiment of Claims 10-12 respectively, and are rejected on the same basis.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Lien, Y. Edmund, "Hierarchical Schemata for Relational Databases", ACM Transactions on Database Systems (TODS) archive, Volume 6, Issue 1 (March 1981). Reference teaches conversion of a hierarchical schema to a relational database.
- U.S. Patent No. 6,115,709 issued to Gilmour, et al. "Method and System for Constructing a Knowledge Profile of a User Having Unrestricted and Access Portions According to Respective Levels of Confidence of Content of the Portions." Alternative reference teaching access to a document repository using profiles.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J.D. Santos whose telephone number is 703-305-0707. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on 703-308-1436. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patrick J.D. Santos
April 12, 2004


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